Atty. Docket No. 391130

IN THE SPECIFICATION

Please amend the paragraph starting at p. 4, line 20 and ending at p. 5, line 4 to read:

The present invention overcomes the problems that are outlined above by providing an improved optical test equipment having modular components that reside in a single housing for a dense system that occupies less rack space than prior systems and is comprised of modular components that may be selectively and programmably upgraded over time to accommodate increasing throughput and bandwidth. These advantages are facilitated by a densified way of coupling laser source cards with channel option cards, together with use of improved theremoelectric cooling systems and laser pulse modulation systems.

Please amend the paragraphs starting at p. 8, line 9 and ending at p. 9, line 13 to read:

A further aspect of the optical test system, according to preferred instrumentalities of the invention, includes the provision of optical connectors configured to provide laser source input to the plurality of channels when the optical connectors are coupled with an external laser source. A plurality of such systems can be coupled to multiply the total number of channels that are combined in a single MUX; this permits, for example, two of such systems to be coupled in a manner that doubles the number of channels passing through the MUX of the second system. Yet another aspect of the optical test system, according to preferred instrumentalities, includes the provision of a programmable modulation controller that resides within the same housing and is capable of generating a plurality of waveforms. The modulation controller includes a plurality of function generators that, for example, generate waveforms including at least two members of the group consisting of square waves, sawtooth waves, and sine waves. In particularly preferred instances, the modulation controller discharges these waveforms into a shared rail system connected to each channel. The laser source card in each channel is programmably configurable to operate a switch accepting a selected one of the waveforms from the rail system. The laser source card may include a gain block that is programmably configurable to adjust an amplitude of the selected waveform, e.g., by attenuation or amplification, and additional switching mechanisms in the laser source card may selectively bypass the gain block.

It is especially preferred that the master controller be compatible with information and command exchange protocols for the transmission and receipt of information to and from external test system components. By way of example, these protocols may include at least one protocol

selected fromform the group consisting of RS-232, GPIB, Ethernet, and telephony networking protocols (e.g., for modem dial-up connections). By way of example, a modem networking protocol may be used for troubleshooting operations on the optical test system.

Please amend the paragraph starting at p. 12, line 22 and ending at p. 13, line 18 to read:

Where the optical test system includes a master controller internal to the housing, the step of programmably configuring may include a step of programmably configuring the master controller. Furthermore, the method may include adding a modular channel option card, or an array of such cards, to the laser source channel. The system may be calibrated at the manufacturing facility, and it may be constructed by specially trained technicians to incorporate all of the requirements of a complete test system using materials, such as special laser diodes, that are either provided by or specified by the customer. This type of special construction greatly reduces setup downtime upon arrival of the completed test system. Similarly, the integrated modular optical test system permits greater system accuracy and control of expanded test operations according to a method of optical testing. Where, for example, the optical test systems includes a plurality of laser source channels, a MUX, additional optical components, and a master controller all confined in a single housing, a method of use may include energizing the laser source channels to provide test waveforms, and combining the waveforms through use of the MUX to provide a combined comb. The method of use may further include a step of operating the optical test system through use of a unified set of program commands directed from the master controller. Additionally, the method may include a step of troubleshooting system problems through use of a telecommunications linkage.

Please amend the paragraph starting at p. 16, line 1 and ending at p. 16, line 6 to read:

A channel option array 116 comprising individual channel option cards, such as card 118, may be selectively added using commercially available components to provide shutter control for each laser, a variable optical attenuator, a polarization controller, a polarization scrambler, a power monitor, and a wavelength reference. These devices may be used individually, selectively combined in series, or not used at all, depending upon test needs.

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Please amend the paragraph starting at p. 27, line 14 and ending at p. 27, line 23 to read:

Fig. 6 depicts a flow chart that represents the various setup configuration options for optical test system 100. Except as noted below, this setup is performed at the factory prior to delivery of the optical test system 100 to the customer. In step 600, the system is provided as an empty box that requires various modules to be installed according to a customer's test needs. A decision is made in step 602 as to the source of laser diodes for the laser source bank 106. This decision has three options. The customer can supply precalibrated diodes for factory installation in step 6046. The factory can install a recommended array, e.g., for specific DWDM test applications, in step 606, or nothing is installed so that the customer can install the diodes in step 608.